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NEW CLAIMS

1. Self-adjusting rotating joint (1), particularly for liquid distribution devices, comprising:

- a substantially tubular stationary lower element (3), adapted to be connected to a liquid feeding inlet pipe,

- a substantially tubular rotatable upper element (2), adapted to be connected to a liquid distribution nozzle,

- connecting means (6, 25) adapted to pivotally connect said upper rotatable element (2) and said lower stationary element (3), so as to allow their relative rotation about a common axis (V), with limited axial relative displacement, thereby transferring a reaction force produced by the jet in a plane passing through said common axis (V);

- braking means (10, 15, 16, 17, 18, 20, 21, 22, 23, 30, 31) to counter the relative rotation of said upper and said lower elements (2, 3) about said rotation axis (V);

- said connecting means comprising a substantially cylindrical tubular connecting element (6, 25) with substantially constant outer diameter;

characterised in that said tubular connecting element (6, 25) is a section of predetermined length cut from an indefinite pipe having a substantially cylindrical outer surface with no annular flange, said tubular connecting member (6, 25) being rigidly secured to one of said upper and lower elements (2, 3) with at least part of its substantially cylindrical outer surface, said braking means (10, 15, 16, 17, 18, 20, 21, 22, 23, 30, 31) being separate and independent from said tubular connecting element (6, 25).

2. Self-adjusting rotating joint according to claim 1, characterised in that said tubular connecting element (6, 25) is rotatably coupled to the

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other of said upper and lower elements (2, 3) with the interposition of at least one antifriction annular member (8, 27),

3. Self-adjusting rotating joint according to claim 1, characterised in that said tubular connecting element (6) is fixedly attached to said upper rotatable element (2).

4. Self-adjusting rotating joint according to claim 3, characterised in that a sleeve (9) of substantially cylindrical shape is rigidly attached peripherally of said lower stationary element (3), said sleeve (9) having a flange (10) interacting with said braking means to controllably counter the rotation of said upper rotatable element (2).

5. Self-adjusting rotating joint according to claim 4, characterised in that said braking means comprise pads (17, 18) of material with high wear resistance, adapted to interact with substantially annular braking surfaces (15, 16) unitarily joined to said flange (10).

6. Self-adjusting rotating joint according to claim 3, characterised in that a sleeve (30) of substantially cylindrical shape is rigidly secured to an end portion of said lower stationary element (3) and placed peripherally of said tubular connecting element (6).

7. Self-adjusting rotating joint according to claim 6, characterised in that said sleeve (30) has a substantial cylindrical central portion (30') connected to axial end portions (30'', 30''') adapted to house substantially annular braking pads (30, 31).

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8. Rotating joint according to claim 7, characterised in that said annular braking pads (31, 32) have internal cylindrical surfaces (31'', 32''), in friction contact with said tubular connecting element (6) to transfer the reaction to the force (F) exerted by the jet in an axial plane passing through said common axis (V), and planar annular surfaces (31', 32') acting on braking surfaces (20, 21) connected to said upper rotatable element (2) to controllably counter its rotation with respect to said lower stationary element (3).

9. Self-adjusting rotating joint according to claim 1, characterised in that said tubular connecting element (25) is unitarily fixed to said lower stationary element (3).

10. Self-adjusting rotating joint according to claim 9, characterised in that annular members (28, 29) are rigidly fixed to said upper rotatable element (2), said annular members (28, 29) being axially spaced and being interposed between said tubular connection element (25) and said upper rotatable element (2) to define a friction pad and to transmit to said lower stationary element (3) forces acting on said upper rotatable element (2).

11. Self-adjusting rotating joint according to claim 9, characterised in that a sleeve (26) of substantially cylindrical shape is rigidly coupled to said upper rotatable element (2) and is provided with a flange (10) interacting with said braking means (20, 21) to controllably counter the rotation of said rotatable upper element (2).

12. Self-adjusting rotating joint according to claim 9, characterised in that a sleeve (26) of substantially cylindrical shape is rigidly coupled to said upper rotatable element (2) and is provided with a flange (10), said braking

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means consisting of pads (22, 23) unitarily secured to said flange (10) on opposite sides thereof and adapted to interact with braking surfaces (20, 21) defined by substantially annular elements of high wear resistance material.

13. Self-adjusting rotating joint according to any of the claims 5, 7 or 12, characterised in that said pads (17, 18, 22, 23, 31, 32) are shaped as continuous rings or circular sectors circumferentially spaced and placed peripherally of said sleeve (8, 26, 30), elastic means (19, 24) being provided to force said pads (17, 18, 22, 23, 31, 32) against said braking surfaces.

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